

SYNTHETIC LIQUID FUELS

OCTOBER 6 (legislative day, SEPTEMBER 15), 1943.—Ordered to be printed

Mr. O'MAHONEY, from the Committee on Public Lands and Surveys,
submitted the following

REPORT

[To accompany S. 1243]

The Committee on Public Lands and Surveys, to whom was referred the bill (S. 1243), authorizing the construction and operation of demonstration plants to produce synthetic liquid fuels from coal and other substances, in order to aid the prosecution of the war, to conserve and increase the oil resources of the Nation, and for other purposes, having carefully considered the same, report favorably thereon with the following amendments and with the recommendation that the bill, as amended, do pass.

On page 2, line 2, after the word "products," add the following:

The plants shall be of the minimum size which will allow the Government to furnish industry the necessary cost and engineering data for the development of a synthetic liquid fuel industry and of such size that the combined product of all the plants constructed in accordance with this act will not constitute a commercially significant amount of the total national commercial sale and distribution of petroleum and petroleum products.

On page 3, line 16, after the word "purchaser" strike out the period and add the following: "through regular commercial channels."

This bill might well be termed a bill to assure the United States a continuous supply of domestically produced motor fuel and aviation gasoline. The military demands for petroleum and its products during the war have been so great that we are now burning up liquid fuel at the rate of approximately 1½ billion barrels of crude oil every year. This tremendous drain upon American supplies has been occasioned by the fact that the United States oil fields have been the only sure and certain source of supply for the armies, the navies, and the air forces of all the United Nations. Even though the recovery of the Mediterranean Sea from Axis control is opening up middle eastern sources of oil, the demand for American supplies is likely to continue at a tremendously high rate because the American air fleets are being constantly augmented. More and larger planes

of longer flying radius are under construction and the demand for these planes will not be appreciably diminished while the war with Japan continues.

The consumption of oil in the United States is now proceeding annually at a rate much greater than the discovery of new supplies. During the years 1940, 1941, and 1942, the additions to the proven oil reserves of the Nation amounted in the aggregate to approximately 1.6 billion barrels of crude oil as compared with additions of 5.4 billion barrels in the preceding 3 years. The rate of discovery has been steadily declining and while your committee is of the opinion that the search for oil in the public-land States can be successfully stimulated it is nevertheless evident that the demand for liquid fuel is likely to continue at such a high rate that the Nation's interest can be conserved only by immediate action to bring about the manufacture of synthetic liquid fuel from the unlimited supplies of coal which this country possesses and from vast deposits of oil shale to be found in several of the public-land States.

There can be no doubt now that aviation will be one of the principal industries toward which the world will turn after the war. The United States now occupies a position of world leadership in this field. Not only because of the genius and skill of its citizens who are engaged in the design and manufacture of airplanes, but because we have had a large supply of crude oil. If, however, the country is to maintain its leadership in the air it must take steps now to guarantee a sure and certain supply of liquid fuel. This can be done by the use of coal, oil shale, and other materials for the manufacture of synthetic liquid fuel. In Germany, Japan, and in England, also, the hydrogenation of coal has been a source of gasoline supply. The process has not been used in the United States largely because of the cost, and industry has not as yet undertaken to demonstrate the possibilities.

The Bureau of Mines, acting under the authorization of a special appropriation, has made experiments in a small plant at the Bureau of Mines station in Pittsburgh, Pa. These experiments, which have been successfully carried out, have proceeded to such a point that it is now desirable to carry them on in a more extensive manner. The Pittsburgh tests were scarcely more than laboratory tests; the next step is to construct and operate demonstration plants.

The committee held hearings during the recess of Congress at Washington, D. C., Pittsburgh, Pa., Salt Lake City, Utah, and Sheridan, Wyo. Opportunity was extended to all branches of industry to discuss the measure. The response, not only from industry but also from public authorities in the coal-bearing States, was little short of enthusiastic. Only one doubt was expressed; namely, that the authority might be used to put the Government in competition with private industry. This was not the intention of the sponsor of the bill, nor of the Department of the Interior, and statements to that effect were made at the hearings. In order to make the matter clear, however, the committee, at the recommendation of the subcommittee which conducted the hearings, has adopted the amendments on pages 2 and 3 of the bill which are set forth in full above, to make certain that there will be no invasion of the domain of private industry and no competition by Government with commercial enterprise.

The report of the Secretary of the Interior is hereinbelow set forth in full and made a part of this report.

THE SECRETARY OF THE INTERIOR,
Washington 25, D. C., August 2, 1948.

HON. CARL A. HATCH,
*Chairman, Committee on Public Lands and Surveys,
United States Senate, Washington, D. C.*

MY DEAR SENATOR HATCH: You have asked my views on the provisions of S. 1243, a bill authorizing the construction and operation of demonstration plants to produce synthetic liquid fuels from coal and other substances, in order to aid the prosecution of the war, to conserve and increase the oil resources of the Nation, and for other purposes.

I am wholeheartedly in favor of the legislation proposed in the bill. It is high time that the country embarked in earnest upon the program of research and development work necessary to determine the processes and equipment required for the establishment of an industry which can help to supply the continuing needs of the country for liquid fuels which have heretofore been available from the ample but now waning domestic petroleum reserves.

The total demand for liquid fuel in 1941 and 1942 reached about 1.5 billion barrels annually. The rate of discovery of petroleum has decreased sharply since 1937. In the 3 years 1937-39 about 5.4 billion barrels were added to the Nation's proved oil reserves, whereas in the 3 years 1940-42 the increment was only 1.6 billion barrels. In 1942, the new reserves discovered, including extensions and new horizons in old fields, were at a low of 317 million barrels or only about one-fifth of our annual rate of consumption. This failure to find adequate quantities of new oil was not due to lack of prospect drilling, as 3,264 wildcat wells were drilled in 1941 and 3,029 in 1942. The decline in the rate at which new discoveries are being made is causing serious concern as to a sufficient supply of crude petroleum in the event of a long war. The ominous implications of the progressive effect of this decline upon the peacetime economy of the post-war years are easily foreseen and can be effectively forestalled by timely action. The answer to the problem clearly lies in the utilization of other materials than petroleum as sources of the liquid fuels required to supply the Nation's needs.

It is apparent that this country can no longer delay in embarking upon a synthetic liquid fuel program. Our study of petroleum reserves and the rate of their depletion indicates clearly that unless we take action, the end of the age of abundant oil is in sight. This development—and I fix no date for it—will inevitably bring major repercussions throughout our entire economy in peace as well as in war.

Fortunately, the Department of the Interior has been aware of these trends and has initiated the study of means which may still be taken to prevent the Nation from feeling the full force of future natural petroleum deficiencies. In particular, the Bureau of Mines has developed processes that actually have produced petroleum products and liquid fuels from coals, oil shale, gases, and other substances. We have also studied similar developments in other countries.

However, the time has come when we must get out of the test-tube stage into actual production. Past experiments have given us the scientific knowledge of the basic processes involved but the way must be blazed for American industry to enter this synthetic fuel field, which inevitably will be one of the major industrial developments of the near future.

It is, in my opinion, the responsibility of an alert government to meet such a situation forthrightly. Therefore, I propose that the Government harness its facilities to the business of blazing this path so that industry and private initiative may take up the work. Under present conditions we cannot rely upon industry to make the initial, unremunerative expenditure necessary to solve the technical and economic problems of synthetic fuel production. Therefore, I propose that the Government fulfill its duty on a demonstration basis, making its findings and experience available to industry so that private enterprise can take up the task of providing synthetic fuels on the scale necessary to safeguard the Nation's future.

The Department has not as yet been informed by the Bureau of the Budget concerning the relationship of this proposed legislation to the program of the President.

Sincerely yours,

HAROLD L. ICKES, *Secretary of the Interior.*



1. The first part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present and for the development of a sound policy for the future. The author points out that the study of history is not merely a collection of facts and dates, but a process of critical thinking and analysis. It is through the study of history that we can learn from the mistakes of the past and avoid them in the future.

2. The second part of the paper discusses the role of the government in the development of the United States. It is argued that the government has played a crucial role in the development of the country, from the establishment of the Constitution to the present day. The author points out that the government has been responsible for the creation of the federal system, the establishment of the courts, and the development of the economy. It is through the government that we have been able to achieve the progress that we have today.

3. The third part of the paper discusses the role of the individual in the development of the United States. It is argued that the individual has played a crucial role in the development of the country, from the founding fathers to the present day. The author points out that the individual has been responsible for the creation of the federal system, the establishment of the courts, and the development of the economy. It is through the individual that we have been able to achieve the progress that we have today.

4. The fourth part of the paper discusses the role of the future in the development of the United States. It is argued that the future is a time of great opportunity and challenge. The author points out that the future is a time when we will be able to achieve the goals that we have set for ourselves. It is through the future that we will be able to achieve the progress that we have today.

5. The fifth part of the paper discusses the role of the present in the development of the United States. It is argued that the present is a time of great opportunity and challenge. The author points out that the present is a time when we will be able to achieve the goals that we have set for ourselves. It is through the present that we will be able to achieve the progress that we have today.